

Executive Summary

Bonner County, Idaho

Wildland/Urban Interface

Fire Mitigation Plan

May 2004

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Introduction

As urban areas became more crowded in the decades following World War II, more people began to move toward the serenity of open space. At first the movement wasn't far from the urban areas, but as time passed and our society became more mobile, people moved far and wide and are now very prevalent in the wildland setting. When human habitations are intermingled with a natural setting it is referred to as the "wildland urban interface." North Idaho has experienced this phenomenon first hand. The result of this trend is an increase in the risk of loss of life and property, while at the same time complicating fire suppression efforts.

Federal, state and local fire agencies have done an excellent job of fire suppression and fire prevention education, but there was never a consolidated attempt to reduce the risk of loss of life or property to wildfires. This all changed in the year 2000. Through efforts of the western governors and legislators, a National Fire Plan was adopted and an agreement on a ten-year comprehensive strategy to address the impacts of wildfire on the landscape and communities was put in place. The National Fire Plan emphasizes a collaborative, community-based approach to wildland fire issues. Part of this process is to assess the risk to communities from wildfire and develop a wildland urban interface fire mitigation plan.

In Idaho's implementation strategy for the National Fire Plan each county is asked to develop a wildland urban interface fire mitigation plan for non-federal lands. The mitigation plan is to include a risk assessment and a mitigation strategy to address risk associated with wildfire in the county. Bonner County elected to contract this work out, and has hired Inland Forest Management Inc., of Sandpoint, Idaho, to do the risk assessment, write the wildland urban interface fire mitigation plan and provide management for the mitigation program. The name of the mitigation program in Bonner County is **BONFIRE**.

The risk assessment described in the mitigation plan was used to prioritize wildfire mitigation efforts. The mitigation strategy includes hazardous fuels treatment projects, public education and wildland fire preparedness. Implementation of the mitigation strategy is scheduled to begin in the spring of 2004.

The plan is organized to first give an overview of the general setting in Bonner County, including a brief look at local fire history. A Risk Assessment is then presented, followed by the Mitigation and Action Plan that outlines mitigation measures designed to reduce the risk of wildfire in the wildland urban interface.

Records from the 2000 census show the population of Bonner County at 36,865. As of 2002, the Idaho Department of Commerce placed the population at 38,205. This is up from 26,662 in 1990 (U.S. Census 2000). This translates into an increase in population of 43% between 1990 and 2002. At this rate of growth, the population in 2010 will be approximately 50,000. The majority of the increase, as well as the anticipated increase to 2010, lie in areas considered to be in the wildland urban interface.

Brief Fire History

Fire has been a part of the natural world since the beginning of time. It has been instrumental in the development and condition of forests in North Idaho for millennia. Historically (prior to settlement) wildland fires in Northern Idaho were of mixed-severity with fire free intervals of about 30 to 100 years (Arno et al. 2000). Some of these fires were human caused, but most were the result of lightning. The shorter the interval between fires, the less severe the typical fire was likely to be. During normal weather patterns, fire would result in a mosaic of disturbance across the landscape. However, during drought conditions, the potential for stand replacing crown fires was great.

This historical pattern of fire occurrence and severity began to change with the arrival of European settlement. Human caused fires have impacted Northern Idaho for at least 6,000 years (Malouf 1969), but with the coming of settlement the number and frequency of human caused fires increased significantly. A number of large damaging fires occurred in the later part of the 1800s and early 1900s, prompting the organization of wildland fire suppression efforts. In addition to suppressing human caused fires, naturally occurring lightning fires were also suppressed. These fire suppression efforts began to disrupt the historic behavior pattern of naturally occurring fires. As a result, contemporary fire interval and occurrence patterns are different from historic patterns. Today, we are faced with denser forest vegetation conditions over larger areas than would have occurred pre-settlement. Fires occurring today, during periods of high fire danger, will most likely burn with more intensity resulting in greater damage to the ecosystem and making suppression efforts more difficult.

Risk Assessment

Geographic Information System (GIS) technology, input from local fire districts, and on-site home assessments were used to assess the overall risk of wildfire in Bonner County. Fire district personnel identified areas they determined to be of high priority in need of hazardous fuels treatment work. The **BONFIRE** program manager attended local Fire Chief's meetings to solicit input regarding their concerns relative to interface fire issues in relation to preparedness. Issues and concerns of the chiefs are included in the risk assessment.

Geographic information technology was used to independently validate the anecdotal approach of the fire agencies. The GIS was used to identify areas at high risk to wildfire based on factors commonly used by fire agencies to assess fire risk. Values at risk were then added to the GIS based risk assessment to determine areas of high risk and high

value. These areas were then compared to the high priority areas identified by the fire agencies. The areas determined to be at high risk and high value using this analysis correlate strongly with the high-priority locations identified by the local fire agencies.

In addition to this methodology, a risk rating method for individual dwellings was developed for use during the mitigation phase of the wildland urban interface mitigation program. A total of 393 buildings throughout the county were evaluated using this procedure. The sample indicates that between 45% and 50% of the buildings in Bonner County are at high wildfire risk.

Mitigation and Action Plan

The risk assessment identified locations in the county that are at high risk and are high priority for mitigation work. Based on field sampling it has also been established that 45% to 50% of the homes in the rural setting are at high risk. Hazardous fuels treatment work, in the form of defensible space for homes and businesses and fuel break development designed to help protect areas of high population density can mitigate the risk associated with wildfires. In addition, several preparedness issues identified during the risk assessment need to be addressed in the action plan. The following table summarizes the action plan as presented in the Bonner County Wildland Urban Interface Fire Mitigation Plan.

Mitigation Action Plan Summary

Action Item	Need Identified	Mitigation Goal	Responsible Party	Timeframe for Completion
Hazardous Fuels Treatment	Create defensible space and fuel breaks around and near homes and businesses.	Reduce the risk to life and property, increase fire fighter and the public's safety and reduce fire suppression cost.	BONFIRE Program, in cooperation with private property owners and local, state, and federal fire agencies.	Ongoing
Disaster Planning	Periodically review and update the County Emergency Operations Plan	Reduce the risk to life and property by improving coordination of emergency response to the threat of wildfire	County Office of Emergency Management	Review Emergency Operations Plan annually
Facilities	As the community grows in population the need for new fire stations will occur.	Reduce the risk to life and property by placing emergency response personnel and equipment in a position to reduce response time.	Local Fire Districts	Ongoing

Action Item	Need Identified	Mitigation Goal	Responsible Party	Timeframe for Completion
Equipment Fire Apparatus	Wildland fire engines are needed by several of the fire districts in order to address the increasing threat from wildfires.	Reduce the risk to life and property by providing emergency response personnel with the type of apparatus that will improve their ability to fight fires in the wildland urban interface.	Local Fire Districts	Ongoing
Personal Protective Equipment	Personal protective equipment such as nomex, helmets, turnouts, etc. is needed by fire fighters in order to safely perform their duties	Reduce the risk to fire fighters by providing personal protective equipment that allows them to perform their duties safely.	Local Fire Districts	Ongoing
Water Supply	There is a need for standardized dry fire hydrants around the county.	Reduce the risk to life and property by improving the ability of fire response personnel to efficiently and effectively respond to mutual aid requests.	District Fire Chiefs with the Idaho Department of Lands and the U.S. Forest Service	Initiate in 2004 with completion by 2006
Communications	The need for standardized communications capability has been recognized in the County Emergency Operations Plan and there is a plan in place to address this issue.	Reduce the risk to life and property by improving coordination and communication between emergency response personnel.	Bonner County Dept. of Emergency Management along with local, state, and federal emergency response agencies	Ongoing
Training	Local fire districts should continue to take advantage of wildfire training offered by IDL and the Forest Service.	Reduce the risk to life and property by improving the ability of emergency personnel to respond appropriately to the threat of fire in the interface.	Local Fire Agencies	Ongoing

Action Item	Need Identified	Mitigation Goal	Responsible Party	Timeframe for Completion
Public Education Home Assessments	A standardized way of evaluating the risk to homes and businesses from wildfire is needed.	Reduce the risk to life and property by increasing the public awareness of the risk to wildfire in the interface and how to mitigate the risk.	BONFIRE Program in collaboration with local, state, and federal fire agencies.	Initiate in the summer of 2004 – Continuous thereafter
Public Education Public Awareness	A public education program using local media, fire safe brochures and flyers, public appearances and other means should be initiated to fulfill this need	Reduce the risk to life and property through public education.	BONFIRE Program in collaboration with local fire agencies	Initiate in 2004 and continuous thereafter
Fire Safe Ordinance	The fire districts and agencies recognize the need for “fire safe” construction for new homes and in new developments.	Reduce the risk to life and property by improving the ability of responding fire personnel to access and defend dwellings threatened by wildfire.	Local Fire Agencies in conjunction with the Board of Commissioners, real estate association, and local building contractors.	Initiate process in 2004

Conclusions

All three approaches to the risk assessment indicated a significant percentage of homes in Bonner County are at high risk from wildfire. Based on past trends, the population of Bonner County will increase to 50,000 by the year 2010. The majority of these new immigrants are expected to reside in the wildland urban interface, adding to the potential for the loss of life and property in the event of a wildfire.

The risk to life and property can be reduced through implementation of a comprehensive mitigation action plan. This document presents such a plan. The implementations strategy includes:

- a) Fostering of public awareness through the implementation of a comprehensive education program.
- b) Reduction of the physical threat of wildfire through the use of hazardous fuels treatment projects. Fuels treatment projects should include strategically placed community fuel breaks coordinated with hazardous fuels treatment work done on state and federal lands. While the larger fuel break projects will provide some protection, it is also necessary for homeowners to create defensible/survivable space around their homes to ensure adequate protection from wildfire. The Bonner County **BONFIRE** Program will provide an opportunity for property owners to develop defensible space around their dwellings at little or no cost to the owner.
- c) Enhancement of fire agencies ability to respond to, and suppress, wildfires in the Wildland Urban Interface through training, and acquisition of equipment and facilities.
- d) Coordination of hazardous fuels treatment projects with state and federal fire agencies.

This mitigation plan marks the beginning of a countywide effort to reduce the risk to life and property from wildfire. It will require a cooperative effort between federal, state and local fire agencies and the citizens of Bonner County to attain this goal and maintain a fire safe environment for all into the future.